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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,889	10/30/2003	Mark A. Burns	UM-08280	9149

7590

11/30/2005

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EXAMINER

SCHNEIDER, CRAIG M

ART UNIT

PAPER NUMBER

3753

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/696,889	Applicant(s) BURNS ET AL.	
	Examiner Craig M. Schneider	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of numerous spelling and grammatical errors. The following informalities are some examples to name a few:

On page 1, line 22 "in" should be --is--.

On page 3, line 18 "liquidfication" should be --liquification--.

On page 3, line 21 "biocoomplatability" should be --biocompatability--.

On page 3, line 28 "cam" should be --can--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10-22, 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parunak (6,575,188) and further in view of Parunak.

Parunak discloses a device (50) that provides meltable material (56) and the device comprises a first micro channel (55), the first micro channel having a middle section (57) and an end section, the end section intersecting a second micro channel (52 and 54) at a junction (68)(col. 4, lines 16-25), a second heater element (37) is associated with the middle section of first micro channel, and wherein the inlet port is linked to a gas source (32 and 34)(col. 4, lines 26-35). Then apply pressure with the

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gas source to the melted material and activate the second heater under conditions that the melted material remains melted, moves to the junction and at least partially solidifies, thereby creating a plug at the junction blocking the second micro channel.

Parunak further discloses that the junction is configured as a "T" junction as can be seen in Figure 2a. Parker further discloses that the substrate is selected from the group consisting of glass and silicon (col. 13, lines 46-48).

Parunak discloses all the claimed features of the invention except that the device has an inlet port in fluidic communication with a first micro channel, also that the first heater element is associated with the inlet port, and that a third heater element is associated with the second micro channel at the junction. Parunak further does not disclose that the device introduces the meltable material at the inlet port and that activating the first heater element under conditions such that the meltable material at least partially melts to create a melted material. Parunak in another embodiment of the invention does disclose the device has an inlet port (40) in fluidic communication with a first micro channel as seen in Figure 4a, also that the first heater element is associated with the inlet port (col. 8, lines 3-10), and that a third heater element (37') is associated with the second micro channel at the junction.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a inlet port with a first heater element for meltable material as discloses by the other embodiment of Parunak onto the original Parunak embondiment, in order to add additional wax if needed.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to place an additional heater at the junction of the first and second micro channel as disclosed by Parunak's other embodiment onto the first embodiment as disclosed above, in order to aid in the melting of the wax.

Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parunak as applied to claim 1 above.

Parunak discloses all the features of the claimed invention except that the junction is configured as a "Y" junction. However, to employ a "Y" junction is considered to be an obvious design expedient over the "T" junction of Parunak which provide no new and/or unexpected results nor solves any stated problem. That is, there is no criticality associated with the recited operating characteristics providing any new and/or unexpected results over the "T" junction.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Liu et al. (6,679,279) and Hiu Liu et al. (US 2004/0007275 A1) both disclose other types of wax-type valves.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig M. Schneider whose telephone number is (571) 272-3607. The examiner can normally be reached on M-F 8:30 -5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Blau can be reached on (571) 272-4406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CMS
November 21, 2005


Craig Schneider
Patent Examiner
Art Unit 3753


STEPHEN BLAU
PRIMARY EXAMINER